

CLAIMS:

1. An electrophotographic apparatus comprising a plurality of image forming means each including a photosensitive drum having, on its outer surface, a photosensitive layer, a charging means for charging the photosensitive layer to a predetermined potential, an exposure means for exposing the photosensitive layer in accordance with image data so as to form a latent image, and a developing means for causing toner to stick to the latent image on the outer photosensitive drum so as to form a toner image, the plurality of the image forming means being stacked one upon another along a straight part of an endless intermediate transfer belt which is stretched for rotation between a plurality of rollers including a drive roller and at least one idle roller, so as to make the photosensitive drums into contact with an outer peripheral surface of the endless belt in order to transfer toner images formed on the plurality of photosensitive drum onto a medium directly or by way of the intermediate transfer belt for forming a color image, characterized in that:
 - the photosensitive drums are arranged in one row in a vertical direction,
 - the intermediate transfer belt is located on one side of the row of the photosensitive drums,
 - the developing means are located on the other side of the row of the photosensitive drums,
 - a recording medium supply means is located

below the row of the photosensitive drums,

a transfer means for transferring a toner image from the intermediate transfer belt onto the recording medium is located above the row of the photosensitive drums, and

a recording medium supply path composed of a vertical conveying path for conveying a recording medium fed from the recording medium supply means, substantially in parallel with the straight part outside of the developing means, a curved part and a horizontal conveying path for conveying the recording medium up to the transfer means in a substantially horizontal direction is provided.

2. An electrophotographic apparatus comprising a plurality of image forming means each including a photosensitive drum having, on its outer surface, a photosensitive layer, a charging means for charging the photosensitive layer to a predetermined potential, an exposure means for exposing the photosensitive layer in accordance with image data so as to form a latent image, and a developing means for causing toner to stick to the latent image on the outer photosensitive drum so as to form a toner image, the plurality of the image forming means being stacked one upon another along a straight part of an endless intermediate transfer belt which is stretched for rotation between a plurality of rollers including a drive roller and at least one idle roller, so as to make the photosensitive

drums into contact with an outer peripheral surface of the endless belt in order to transfer toner images formed on the plurality of photosensitive drum onto a medium directly or by way of the intermediate transfer belt for forming a color image, characterized in that:

the photosensitive drums are arranged in one row in a vertical direction,

the intermediate transfer belt is located on one side of the row of the photosensitive drums,

the developing means are located on the other side of the row of the photosensitive drums,

a recording medium supply means is located below the row of the photosensitive drums,

a transfer means for transferring a toner image from the intermediate transfer belt onto the recording medium is located above the row of the photosensitive drums,

a recording medium supply path composed of a vertical conveying path for conveying a recording medium fed from the recording medium supply means, substantially in parallel with the straight part outside of the developing means, a curved part and a horizontal conveying path for conveying the recording medium up to the transfer means in a substantially horizontal direction is provided, and

a fixing means for heating the toner image transferred on the recording medium so as to fix the same on the recording medium is incorporated in the

horizontal conveying path downstream of the transfer means.

3. An electrophotographic apparatus as set forth in claim 1 or 2, characterized in that a second recording medium supply means is incorporated on the upstream side of the horizontal conveying path, substantially above the curved part, and an auxiliary sheet discharge port is located on the downstream side thereof.

4. An electrophotographic apparatus as set forth in claim 1 or 2, characterized in that the vertical conveying path incorporates a front opening door for exposing the conveying path.

5. An electrophotographic apparatus as set forth in claim 1 or 2, characterized in that the horizontal conveying path incorporates a top surface opening door for exposing this conveying path.

6. An electrophotographic apparatus as set forth in claim 1 or 2, characterized in that the vertical conveying path, the curved part and the horizontal conveying path incorporate an inversed L-like opening door for exposing the conveying paths.

7. An electrophotographic apparatus as set forth in any one of claims 4 to 6, characterized in that the developing means is composed of a developing unit front end part including a developing roller made into contact with the photosensitive drum so as to be rotated in order to form a thin toner layer on the

outer surface of the photosensitive drum, a supply roller for feeding toner onto the developing roller and a toner regulating blade made into line-like contact with the outer peripheral surface of the developing roller with a predetermined pressure so as to form a thin toner layer on the outer surface of the developing layer, and a toner accommodation part coupled to the developing unit front end part, for accommodating therein toner,

the developing unit front end part and the toner accommodation part form an integral developing cartridge, and

the developing cartridge is removed from the opening door side for exposing the vertical conveying path.

8. An electrophotographic apparatus as set forth in any one of claims 4 to 6, characterized in that the developing means is composed of a developing unit front end part including a developing roller made into contact with the photosensitive drum so as to be rotated in order to form a thin toner layer on the outer surface of the photosensitive drum, a supply roller for feeding toner onto the developing roller and a toner regulating blade made into line-like contact with the outer peripheral surface of the developing roller with a predetermined pressure so as to form a thin toner layer on the outer surface of the developing layer, and a toner accommodation part coupled to the

developing unit front end part, for accommodating therein toner,

the developing unit front end part and the toner accommodation part are configured so as to be separatable from each other, and

only the toner accommodation part is removed from the opening door side for exposing the vertical conveying path.

9. An electrophotographic apparatus as set forth in claims 1 or 2, characterized in that

the exposure means incorporates an LED light source.

10. An ectrophotographic apparatus as set forth in claims 1 or 2, characterized in that

at least the plurality of the photosensitive drum are mounted on a common support member so as to constitute an integral unit which can be removed upward.

11. An ectrophotographic apparatus as set forth in claims 1 or 2, characterized in that

the intermediate transfer belt can be removed upward.

12. An electrophotographic apparatus as set forth in any one of claims 4 to 6, characterized in that

the intermediate transfer belt and at least the plurality of photosensitive drums are mounted on a common support member so as to constitute an integral unit which can be removed upward.

13. An electrophotographic apparatus as set forth in any one of claims 4 to 6, characterized in that the developing means is composed of a developing unit front end part including a developing roller made into contact with the photosensitive drum so as to be rotated in order to form a thin toner layer on the outer surface of the photosensitive drum, a supply roller for feeding toner onto the developing roller and a toner regulating blade made into line-like contact with the outer peripheral surface of the developing roller with a predetermined pressure so as to form a thin toner layer on the outer surface of the developing layer, and a toner accommodation part coupled to the developing unit front end part, for accommodating therein toner,

at least the developing unit front end part, the toner accommodation part and the photosensitive drum constitute an integral process cartridge which can be removed from the opening door side for exposing the vertical conveying path.

14. An electrophotographic apparatus as set forth in claim 13, characterized in that the exposure means incorporates a laser source.

15. An electrophotographic apparatus as set forth in claim 13, characterized in that the intermediate transfer belt can be removed upward.

16. An electrophotographic apparatus as set forth in claim 1 or 2, characterized in that the fixing means

can be removed upward.

17. An electrophotographic apparatus as set forth in claim 1 or 2, characterized in that an accommodation space for accommodating at least one of a power source unit and a drive circuit is defined outside of the intermediate transfer belt.